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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/125,005	07/30/98	CAPUT	D IVD-913

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EXAMINER	
LINGAR, S	
ART UNIT	PAPER NUMBER
1642	15

DATE MAILED: 08/08/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/125,005	Caput et al
Examiner	**Art Unit**
Ungar	1642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Apr 30, 2001*.

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above, claim(s) *6-32 and 35-38* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-5, 33, and 34* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

1. The Amendment filed April 30, 2001 (Paper No. 14) in response to the Office Action of October 26, 2000 (Paper N. 12) is acknowledged and has been entered. Previously pending claims 1, 4 and 33 have been amended. Claims 1-5 and 33-34 are currently pending and under prosecution.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Applicant's affirmation of the election of Group I, SEQ ID NO:6, elected during a telephone conversation with Paul Dupont on October 23, 2000 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP 818.03(a).

4. The priority document, French Patent No. 96 -01309 has been received. Priority of the instant invention to February 2, 1996 is acknowledged.

5. The following rejections are being maintained:

Claim Rejections - 35 USC § 101

6. Claims 1-5 and 33-34 remain rejected under 35 USC 101 for the reasons previously set forth in Paper No. 12, Section 13, pages 5-11.

Applicant argues that (a) the specification discloses teaches the identity of SEQ ID NO:6 as human SR-p70 (alternatively known as p73) and points to WO99/66946, (b) the specification teaches that SR-p70 is related to p53 as also noted in the submitted Pathol. Int, 2000 reference, (c) the specification teaches that antibodies to p73 are useful in detecting an abnormal accumulation of p73 proteins in biological samples which makes them useful for detecting cancers or monitoring

the progression or remission of pre-existing cancers and that p73 can be used to detect auto-antibodies against p73 in patients' sera, both of which are documented in the Br. J. Cancer, 2001 reference, (d) the specification also teaches therapeutic utility in pathologies linked to apoptosis or cell transformation as confirmed in WO 99/66946.

The arguments have been considered but have not been found persuasive because (a') the specification does not refer to SR-p70 as p73 and a review of WO99/66946 does not reveal any mention of human SR-p70 as p73. It is not clear how Applicant has made the nexus between SR-p70 and p73. In the absence of objective evidence demonstrating that SEQ ID NO:6 and p73 are identical molecules with identical sequences and functions the argument cannot be evaluated, (b') the Pathol. Int reference is drawn to p73 and not to SR-p70. In the absence of objective evidence demonstrating that SEQ ID NO:6 and p73 are identical molecules with identical sequences and functions the argument cannot be evaluated. Further, even if it were to be demonstrated that SEQ ID NO:6 and p73 are identical molecules, it is not clear from the submitted abstract whether the data presented is drawn to cell culture or primary tumor tissue so that the evidence submitted cannot be evaluated in the absence of the entire reference (c') the Br. J. Cancer, 2001 reference is drawn to p73 and not to SR-p70. In the absence of objective evidence demonstrating that SEQ ID NO:6 and p73 are identical molecules with identical sequences and functions the argument cannot be evaluated. Further, even if it were to be demonstrated that SEQ ID NO:6 and p73 are identical molecules, the information in the abstract is not sufficient for the evidence to be evaluated, (d) even

if it were to be demonstrated that SEQ ID NO:6 and p73 are identical molecules, the argument would still not be persuasive because a review of WO 99/66946 does not teach the therapeutic utility of p73 in any pathology but rather teaches that p73 induced apoptosis and suppresses growth in HPV E6 expressing human cancer cells in culture (see p. 30). It is not clear how this *in vitro* data teaches therapeutic utility Applicant's arguments have not been found persuasive and the rejection is maintained.

Claim Rejections - 35 USC § 112

7. Claims 1-5 and 33-34 remain rejected under 35 USC 112, first paragraph for the reasons previously set forth in Paper No. 12, Section 15, page 11.

Applicant argues that the rejection is overcome in view of the foregoing arguments. The argument has been considered but has not been found persuasive for the reasons set forth above. Applicant's arguments have not been found persuasive and the rejection is maintained.

8. Claims 1-5 and 33-34 remain rejected under 35 USC 112, first paragraph for the reasons previously set forth in Paper No. 12, Section 15, pages 12-14.

Applicant argues that claim 1 is drawn to SEQ ID NO:6 and sequences derived therefore having substantially the same biological activity and that the specification teaches what derivatives are, that is, any polypeptide obtained by modification, deletion or addition of a single amino acid or a limited number of amino acids and which are biologically active and biological activity is defined on page 6. The claimed variants, the means of obtaining them and the means of verifying that they have substantially the same biological activity and the same

utility as SEQ ID NO:6 is well within the skill of the art. The arguments have been considered but has not been found persuasive. The definition of the derivative or variant is not limited. The specification specifically defines the derivative as "any variant polypeptide of the polypeptide of .....SEQ ID NO:6". The statement drawn to a "single amino acid or a limited amino acid" is not limiting because the specification does not define "a limited number of amino acids" which could include all but, for example 4 amino acids which form an epitope that is capable of being recognized by an antibody to SEQ ID NO:6. The specification does not teach how to make/use the claimed derivatives if, for example, they have 4 amino acids which form an epitope that is capable of being recognized by an antibody to SEQ ID NO:6 but yet has no other structure of function that is found in SEQ ID NO:6. Further, it is not clear how"substantially the same" the biological activity must be. For example, any protein will bind to an antibody specific to that protein, regardless of its structure and function. Thus any protein that binds an antibody has substantially the same biological activity as SEQ ID NO:6. Given the teaching in the specification and what is known in the art, it is not possible for the skilled artisan to make/use the broadly claimed polypeptide species. Applicant's arguments have not been found persuasive and the rejection is maintained.

9. Claims 33-34 remain rejected under 35 USC 112, first paragraph for the reasons previously set forth in Paper No. 12, Section 16, pages 14-17.

Applicant argues that (a) the foregoing arguments apply to the rejection of claims 33 and 34 and moreover, (b) one skilled in the art would surely know how to make a pharmaceutical composition and its use in the treatment of cancer is

effectively taught. The arguments have been considered but have not been found persuasive (a') for the reasons set forth above, (b) although one would clearly know how to make a pharmaceutical composition, one would not know how to use it for the reasons previously set forth. It is noted that Applicant does not address the issues raised drawn to the unpredictability of the art of anticancer drug discovery. Applicant's arguments have not been found persuasive and the rejection is maintained.

10. Claims 1-5 and 33-34 remain rejected under 35 USC 112, first paragraph for the reasons previously set forth in Paper No. 12, Section 17, pages 17-20.

Applicant argues that the specification describes the claimed invention substantially for the reasons given above in particular with regard to the description of sequences derived from SEQ ID NO:6 at page 3, lines 9-37.

The argument has been considered but has not been found persuasive for the reasons set forth above drawn to the definition of sequences derived from SEQ ID NO:6. Applicant's arguments have not been found persuasive and the rejection is maintained.

Claim Rejections - 35 USC § 102

11. Claims 1-4 and 33-34 remain rejected under 35 USC 102 for the reasons previously set forth in Paper No. 12, Section 20, pages 21-22.

Applicant argues that as described in applicants' specification, variant polypeptides are those obtained by modification, addition or deletion of a single amino acid or of a limited number of amino acids as well as any isoform sequence which have substantially the same biological activity as SEQ ID NO:6. The cited

reference shows a comparison of the prior art database polypeptide with a p73 partial sequence of some 350 amino acids and this is hardly a variant involving a single or a limited number of the 636 amino acids of p73 and there are nearly as many mismatches as there are matches thus the reference does not teach applicants' polypeptides and cannot anticipate the instant claims. The argument has been considered but has not been found persuasive because the specification specifically defines the derivative as "any variant polypeptide of the polypeptide of .....SEQ ID NO:6". The statement drawn to a "single amino acid or a limited amino acid" is not limiting because the specification does not define "a limited number of amino acids". The reference polypeptide comprises a sequence of SEQ ID NO:6 and is a derivative of SEQ ID NO:6 as defined by the specification. Finally, the prior art reference contains a DNA binding domain and would be expected to have substantially similar biological activity to SEQ ID NO:6 because it would be expected to bind an antibody. All the limitations of the claims are met. Applicant's arguments have not been found persuasive and the rejection is maintained.

Claim Rejections - 35 USC § 103

12. Claims 1 and 5 remain rejected under 35 USC 103 for the reasons previously set forth in Paper No. 12, Section 22, pages 23-24.

Applicant argues that since the primary reference fails to teach the claimed polypeptides, the secondary reference adds nothing to the primary reference and the combined references would not have suggested a fusion protein of the instantly claimed polypeptides.

The argument has been considered but has not been found persuasive because the primary reference clearly teaches the claimed polypeptides and the production of a fusion polypeptide from the prior art polypeptide is obvious for the reasons previously set forth. All the limitations of the claims are met. Applicant's arguments have not been found persuasive and the rejection is maintained.

New Grounds of Rejection

Claim Rejections - 35 USC § 112

13.. Claims 1-5 and 33-34 are rejected under 35 USC 112, first paragraph, as the specification does not contain a written description of the claimed invention. The limitation of any sequence derived from SEQ ID NO:6 and having substantially the same biological activity claimed in Claim 1 has no clear support in the specification and the claims as originally filed. A review of the specification discloses support for a derivative as being any variant polypeptide of the polypeptide of SEQ ID NO:6 having at least one of the properties that makes SEQ ID NO:6 biologically active (page 3) but there is no mention of any derivative with substantially the same biological activity as SEQ ID NO:6. The subject matter claimed in claims 1-5 and 33-34 broadens the scope of the invention as originally disclosed in the specification.

14. Claims 1-5 and 33-34 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-5 and 33-34 are indefinite because claim 1 recites the term "substantially". The term "substantially" is not defined by the claim, the

specification does not provide a standard for ascertaining the requisite degree and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Further, claims 1-5 and 33-34 are indefinite because claim 1 recites the phrase "having substantially the same biological activity". The claim is confusing because it is not clear which biological activity is being claimed. For example, is it binding DNA or exerting transcription factor activity or participating in the control of cell cycle or differentiation or apoptosis or being capable of being recognized by the antibodies specific for SEQ ID NO:6 or capable of inducing antibodies which recognize this polypeptide or is it the ability of any polypeptide to bind an antibody?

15. All other objections and rejections recited in Paper No. 12 are withdrawn.

16. No claims allowed.

17. Applicant's amendment necessitated the new grounds of rejection.

Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT

TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Ungar, PhD whose telephone number is (703) 305-2181. The examiner can normally be reached on Monday through Friday from 7:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, can be reached at (703) 308-3995. The fax phone number for this Art Unit is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Effective, February 7, 1998, the Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1640.

Susan Ungar
Primary Patent Examiner
August 2, 2001